APPENDIX

IN THE CLAIMS:

- 1. (Amended Two Times) A method for *in vivo* delivery of a [desired composition] <u>fusion protein</u> into [a human or animal] <u>the</u> central nervous system (CNS) [or spinal cord], comprising administering to [the] <u>a</u> human or <u>an</u> animal a [composition] <u>fusion protein having a first protein</u> comprising a non-toxic, proteolytic fragment of tetanus toxin (TT) [in association with at least a molecule having a biological function, wherein said molecule with a biological function comprises] <u>recombinantly fused to</u> a <u>second protein, wherein the non-toxic, proteolytic fragment of tetanus toxin comprises a fragment C and at least the 11 amino acid residues of fragment B that immediately <u>precede the amino terminus of fragment C,</u> and wherein said [composition is capable of] <u>fusion protein undergoes</u> *in vivo* retrograde axonal transport and transynaptic transport [into] <u>in</u> the CNS [or the spinal cord] of the human or animal [and of being delivered at different areas of the spinal cord].</u>
- 2. (Amended) The method according to claim 1, wherein the [composition] fusion protein is administered into a muscle.
- 3. (Amended) The method according to claim 2, wherein the [composition] fusion protein is administered into a muscle in the vicinity of a neuromuscular junction.
- 5. (Amended) The method according to claim 1, wherein the [composition] fusion protein is administered into neuronal cells.

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- 8. (Amended) The method according to claim [6 or claim 7] 1, wherein the [molecule] second protein is selected from the group consisting of protein SMN, BDNF (Brain-derived neurotrophic factor), NT-3 (Neurotrophin-3), NT-4/5, GDNF (Glial cell-line-derived neurotrophic factor), IGF (Insulin-like growth factor), PNI (protease nexin I), SPI3 (Serine Protease Inhibitor protein), ICE (Interleukin-1β converting enzyme), BcI-2, GFP (green fluorescent protein), an endonuclease[s like I-Scel or CRE], an antibody [antibodies], or a drug[s] specifically directed against neurodegenerative diseases [such as latero spinal amyotrophy (LSA)].
- 9. (Amended) The method according to claim 8, wherein the composition comprises a combination of at least two of said [molecules] second proteins.
- 10. (Amended) The method according to claim 8, wherein the [molecule] <u>second</u> <u>protein</u> is located upstream from the fragment of tetanus toxin.
- 11. (Amended) The method according to claim 8, wherein the [molecule] <u>second</u> <u>protein</u> is located downstream from the fragment of tetanus toxin.
- 31. (Amended Two Times) A method for [the treatment of the] <u>treating a</u> central nervous system (CNS) [or spinal cord] disease comprising:

[preparing] administering to a patient in need thereof a composition comprising a fusion protein, wherein the fusion protein comprises a first protein comprising a non-toxic, proteolytic fragment of tetanus toxin (TT) recombinantly fused to a second protein, wherein the non-toxic, proteolytic fragment of tetanus toxin comprises a fragment C and [a fraction of fragment B of] at least the 11 amino acid residues of fragment B that immediately precede the amino terminus of fragment C, and wherein the fusion protein undergoes in vivo retrograde axonal transport and transynaptic transport when

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administered to the patient [in a composition for the treatment of the CNS or spinal cord disease; and

delivering the composition in a therapeutically effective manner].

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- 24 -